Alcoa Corporate Center
201 Isabella Street
Pittsburgh, PA 15212-5858 USA
Tel: 1 412.315.2785

August 26, 2021

Laura Hunt, PhD
Superfund and Emergency Management Division
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270

Simon Payne, P.G.
Texas Commission on Environmental Quality
Project Manager, Superfund Section
Remediation Division, Office of Waste, MC-136
12100 Park 35 Circle
Austin, Texas 78753

Re: Sediment Sample Results and Dredge Plan in Support of the Calhoun Port Authority (CPA) Liquid Docks Project

Dear Dr. Hunt:

CPA has received approval from the US Army Corps of Engineers, Galveston District, to implement their Liquid Docks (LD) Project on the CPA South Peninsula according to the parameters described in Permit Number SWG-2016-01066, effective September 9, 2020. The approximate area to be dredged for the Project is outlined in red on Figure 1.

Alcoa reviewed the March 2021 CPA pre-dredge sediment sampling data pursuant to the Alcoa-CPA Settlement Agreement (effective January 31, 2002), and based on that review and as communicated to US EPA and TCEQ, Alcoa identified the need for additional sampling to further delineate the extent of mercury in near-surface, unconsolidated sediments in the LD Project area. Approval to implement the sampling program was granted by US EPA on June 17, 2021.

Over the course of three sampling events during June and July 2021, Alcoa collected and analyzed 54 sediment samples. Lab analysis included total mercury and percent moisture. Sample stations, coordinates, dates, sediment descriptions, and lab results are listed in Table 1; sample locations are shown on Figures 2.1 and 2.2. The CPA data are also listed in Table 1.

Although the LD Project includes both the loose unconsolidated surface sediment and the underlying consolidated clay deposit of the Beaumont Formation, Alcoa's target dredging layer is the upper unconsolidated sediments based on experience with mercury distribution during all of the prior sampling work that has occurred in Lavaca Bay which showed no impact to the consolidated clay. To assist with our dredging planning Alcoa conducted a subsurface hydrographic survey to define the depth of unconsolidated sediment in areas that exhibited mercury impact at concentrations of 0.5 ppm and above. Three distinct segments of the LD

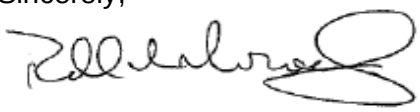
Project area (Areas A, B, and C) were identified. Pursuant to the approved approach in the Sediment Management Framework (Figure 2-24, page 2-109) in the Final Feasibility Study (Alcoa, May 2001), Alcoa plans to dredge the unconsolidated sediment within those areas listed above and shown on Figures 2.1 and 2.2. Plan views of cross sections for Areas B and C are shown on Figure 3; the sections are shown on several figures that follow. There were no sections drawn for Area A since there are only a few inches of unconsolidated sediment over consolidated clay in that area. Dredge material (total of approximately 40,000 cubic yards) will be placed into the interior confined disposal area of Dredge Island.

When conducting the dredge event in areas where silt curtain is used, Alcoa will collect water samples outside of the silt curtain to monitor TSS and mercury values. In addition, Alcoa will monitor any decant effluent from Dredge Island during and immediately after the dredge event is completed. The proposed silt curtain and decant monitoring SAP is included as Attachment A.

Once the Alcoa dredge event associated with the three areas is complete, the dredge and silt curtain will be demobilized and CPA will dredge the remaining sediment within the LD Project boundary. CPA indicates that the remaining sediment will be placed into an upland confined placement area located on the peninsula just south and east of the proposed dredge area.

Should you have any questions during your review for approval, please do not hesitate to call 412.315.2785.

Sincerely,



Ronald M. Morosky
Director, Corp. Remediation and Technology

Attachments

cc: Mark Stiffler, Alcoa Corp.
Keith Schmidt, Alcoa Corp.
Kevin Riggs, Alcoa
Charles Hausmann, CPA
J. C. Melcher, CPA

N

0 350 700 1,400
Feet

Proposed Silt Curtain Dredge Area

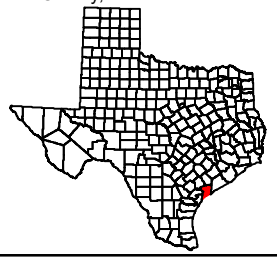
Extant Channel Toe

Proposed CPA Dredge Area

Unconsolidated Sediment Will be Dredged and Placed on Dredge Island (No Silt Curtain)

Notes

2015 0.5m DOQQ (Point Comfort) Quad
Calhoun County, Texas



2021 Supplemental CPA Sediment Sampling

Unconsolidated Sediment Volumes

Prepared for Alcoa Corporation

BESI Benchmark Ecological Services, Inc.

98003-108

Date: 8/26/2021

Figure 1

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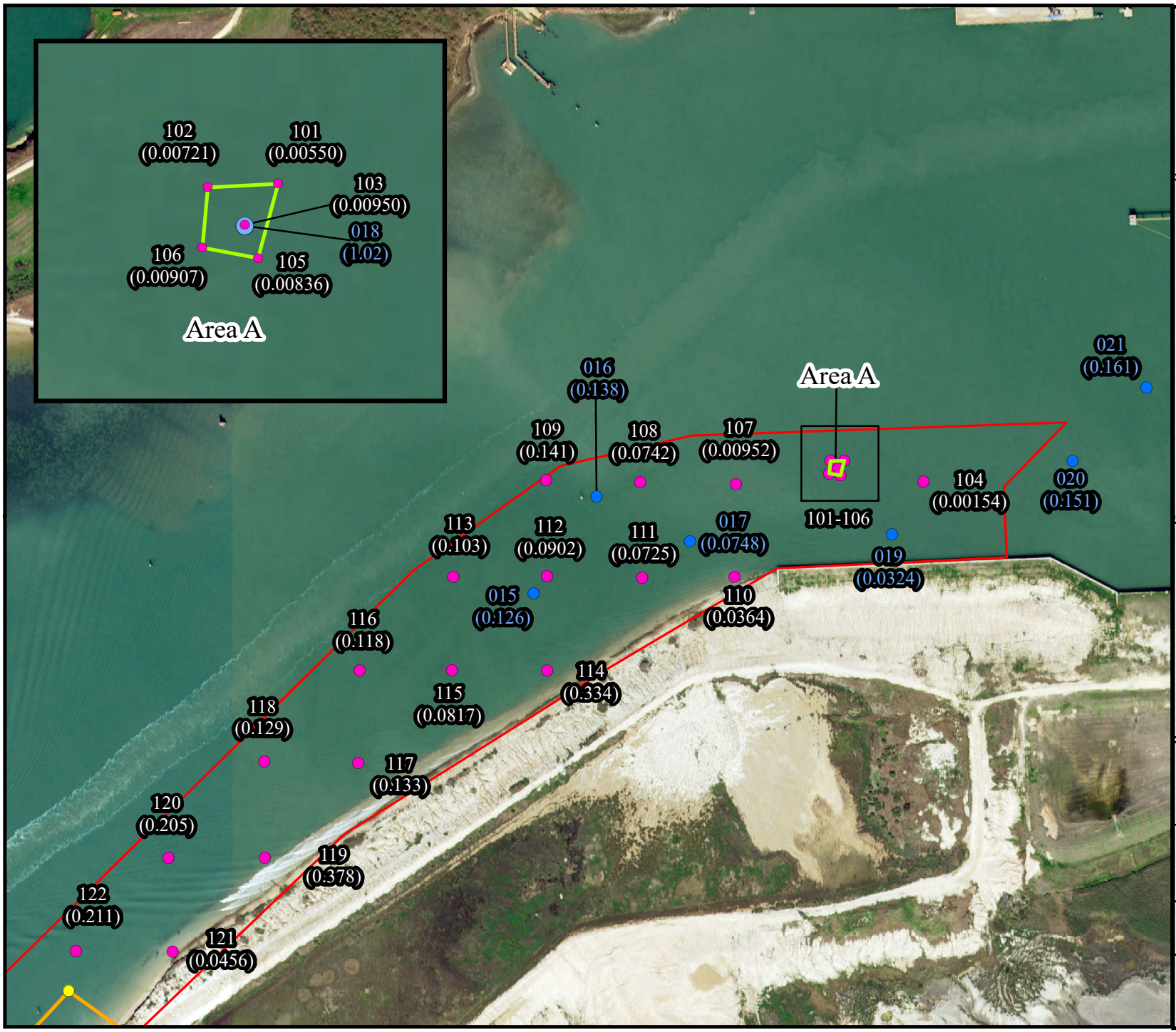

Hg Stations and Results
2021 CPA Sediment Sampling

Sediment
Sample Locations

Prepared for
Alcoa Corporation

BESI Benchmark Ecological Services, Inc.

98003-108
Date: 8/26/2021

Figure 2.1

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N

0 75 150 300 Feet

Proposed CPA Dredge Area

Proposed Silt Curtain Dredge Area

Unconsolidated Sediment Will be Dredged and Placed on Dredge Island (No Silt Curtain)

07/09/21 Sample Locations

07/1521 Sample Locations

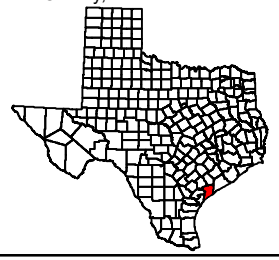
06/23/21 Sample Locations

03/23-24/21 Sample Locations

#.## Sample Index No. & Total Hg (mg/kg dry weight)

Notes

2015 0.5m DOQQ (Point Comfort) Quad
Calhoun County, Texas



Hg Stations and Results
2021 CPA Sediment Sampling

Sediment
Sample Locations

Prepared for
Alcoa Corporation

BESI Benchmark Ecological Services, Inc.

98003-108

Date: 8/26/2021

Figure 2.2

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Table 1 - Sediment Stations, Sample IDs, Field Data, and Results

Sample ID	Easting[1]	Northing[1]	Date	Time	Sample Depth Below Sediment Surface (ft)	Sediment Description	Total Hg			% M	
							(mg/kg) dry wt	SDL[3] (mg/kg)	Flag	wt%	SDL[3] (wt%)
CPA-15S-032321	NA	NA	3/23/2021	15:41	NA	NA	0.126	NA		NA	NA
CPA-16S-032421	NA	NA	3/24/2021	9:55	NA	NA	0.138	NA		NA	NA
CPA-17S-032321	NA	NA	NA	NA	NA	NA	0.0748	NA		NA	NA
CPA-18S-032421	NA	NA	3/24/2021	11:20	NA	NA	1.02	NA		NA	NA
CPA-19S-032421	NA	NA	3/24/2021	14:00	NA	NA	0.0324	NA		NA	NA
CPA-20S-032421	NA	NA	3/23/2021	14:40	NA	NA	0.151	NA		NA	NA
CPA-21S-032321	NA	NA	3/23/2021	14:10	NA	NA	0.161	NA		NA	NA
CPA-0621-101	2752539.4	13425645.2	6/23/2021	15:10	<0.2	Gravel-sized pieces of stiff red clay	0.00550	0.000760	-	32.9	0.0100
CPA-0621-102	2752502.6	13425643.4	6/23/2021	15:20	<0.2	Gravel-sized pieces of stiff red clay	0.00721	0.000726	-	30.0	0.0100
CPA-0621-103	2752521.8	13425623.8	6/23/2021	15:35	<0.2	Gravel-sized pieces of stiff red clay	0.00950	0.000798	-	39.4	0.0100
CPA-0621-104	2752746.6	13425590.7	6/23/2021	15:00	<0.2	Gravel-sized pieces of stiff red clay	0.00154	0.000777	J	34.8	0.0100
CPA-0621-105	2752528.8	13425606.4	6/23/2021	15:50	<0.2	Gravel-sized pieces of stiff red clay	0.00836	0.000710	-	32.8	0.0100
CPA-0621-106	2752499.6	13425611.8	6/23/2021	16:00	<0.2	Gravel-sized pieces of stiff red clay	0.00907	0.000744	-	33.4	0.0100
CPA-0621-107	2752255.1	13425582.8	6/23/2021	14:50	<0.2	Gravel-sized pieces of stiff red clay	0.00952	0.000790	-	38.8	0.0100
CPA-0621-108	2752004.3	13425589.0	6/23/2021	14:45	<0.2	Gravel-sized pieces of stiff red clay	0.0742	0.000922	-	46.2	0.0100
CPA-0621-109	2751758.5	13425592.9	6/23/2021	14:40	0.3	Gray clayey silt	0.141	0.00189	-	73.0	0.0100
CPA-0621-110	2752251.6	13425340.0	6/23/2021	12:15	0.8	Tan silty sand with shell and shell pieces	0.0364	0.000727	-	30.9	0.0100
CPA-0621-111	2752009.6	13425338.1	6/23/2021	14:30	0.8	Gradually consolidating gray clayey silt	0.0725	0.000872	-	41.3	0.0100
CPA-0621-112	2751760.5	13425342.6	6/23/2021	14:20	0.8	Gradually consolidating gray clayey silt	0.0902	0.000856	-	44.2	0.0100
CPA-0621-113	2751514.3	13425340.2	6/23/2021	14:10	0.5	Gray clayey silt	0.103	0.000882	-	45.8	0.0100
CPA-0621-114	2751760.9	13425094.8	6/23/2021	12:25	3.0	Gradually consolidating gray clayey silt	0.334	0.000778	-	36.0	0.0100
CPA-0621-115	2751510.9	13425095.7	6/23/2021	12:30	3.8	Gradually consolidating gray clayey silt	0.0817	0.000800	-	39.3	0.0100
CPA-0621-116	2751269.8	13425095.1	6/23/2021	12:40	0.5	Gray clayey silt	0.118	0.000979	-	49.3	0.0100
CPA-0621-117	2751266.8	13424851.8	6/23/2021	12:55	3.5	Gradually consolidating gray clayey silt	0.133	0.000881	-	44.7	0.0100
CPA-0621-118	2751020.6	13424856.6	6/23/2021	13:05	0.5	Gray clayey silt	0.129	0.00113	-	58.0	0.0100
CPA-0621-119	2751022.1	13424604.7	6/23/2021	13:10	4.0	Tan silty sand with shell and shell pieces	0.378	0.000750	-	36.0	0.0100
CPA-0621-120	2750769.6	13424603.1	6/23/2021	13:15	2.8	Gradually consolidating gray clayey silt	0.205	0.00140	-	63.9	0.0100
CPA-0621-121	2750779.9	13424357.0	6/23/2021	13:17	3.8	Tan silty sand with shell and shell pieces	0.0456	0.000822	-	38.1	0.0100
CPA-0621-122	2750527.2	13424359.0	6/23/2021	13:25	3.9	Gradually consolidating gray clayey silt	0.211	0.00131	-	62.0	0.0100
CPA-0621-123	2750539.8	13424110.8	6/23/2021	9:15	4.2	Gradually consolidating gray clayey silt	1.16	0.000852	-	41.9	0.0100
CPA-0621-124	2750296.1	13424111.1	6/23/2021	13:30	0.5	Gray clayey silt	0.160	0.00131	-	61.7	0.0100
CPA-0621-125	2750281.3	13423864.6	6/23/2021	9:45	3.8	Gradually consolidating gray clayey silt	1.32	0.00101	-	49.0	0.0100
CPA-0621-126	2750041.3	13423614.6	6/23/2021	13:56	0.5	Gray clayey silt	0.167	0.00147	-	68.0	0.0100
CPA-0621-127	2750053.4	13423382.0	6/23/2021	10:15	1.3	Gradually consolidating gray clayey silt	0.160	0.00101	-	53.0	0.0100
CPA-0621-128	2750037.8	13423136.0	6/23/2021	10:30	1.7	Gradually consolidating gray clayey silt	0.0400	0.000867	-	44.2	0.0100
CPA-0621-129	2749800.1	13423119.4	6/23/2021	13:50	0.5	Gray clayey silt	0.143	0.00167	-	70.6	0.0100
CPA-0621-130	2749794.1	13422879.5	6/23/2021	10:45	2.1	Gradually consolidating gray clayey silt	0.191	0.000846	-	44.1	0.0100
CPA-0621-131	2749783.0	13422706.0	6/23/2021	10:50	0.6	Gray clayey silt	0.116	0.000899	-	47.3	0.0100
CPA-0621-132	2749564.7	13422633.8	6/23/2021	11:00	3.0	Gradually consolidating gray clayey silt	3.28	0.00928	-	45.5	0.0100
CPA-0621-133	Duplicate of CPA-0621-109		6/23/2021	14:45	0.3	Gray clayey silt	0.162	0.00179	-	73.4	0.0100
CPA-0621-134	Duplicate of CPA-0621-127		6/23/2021	10:00	1.3	Gradually consolidating gray clayey silt	0.149	0.00101	-	52.5	0.0100
CPA-0721-135	2750507.5	13424254.2	7/15/2021	10:30	3.5	Gray clayey silt	0.0560	0.000470		42.3	0.0100
CPA-0721-136	2750651.8	13424151.7	7/15/2021	12:48	0.8	Shell pieces and shell hash with tan sand	0.00424	0.000470		19.7	0.0100

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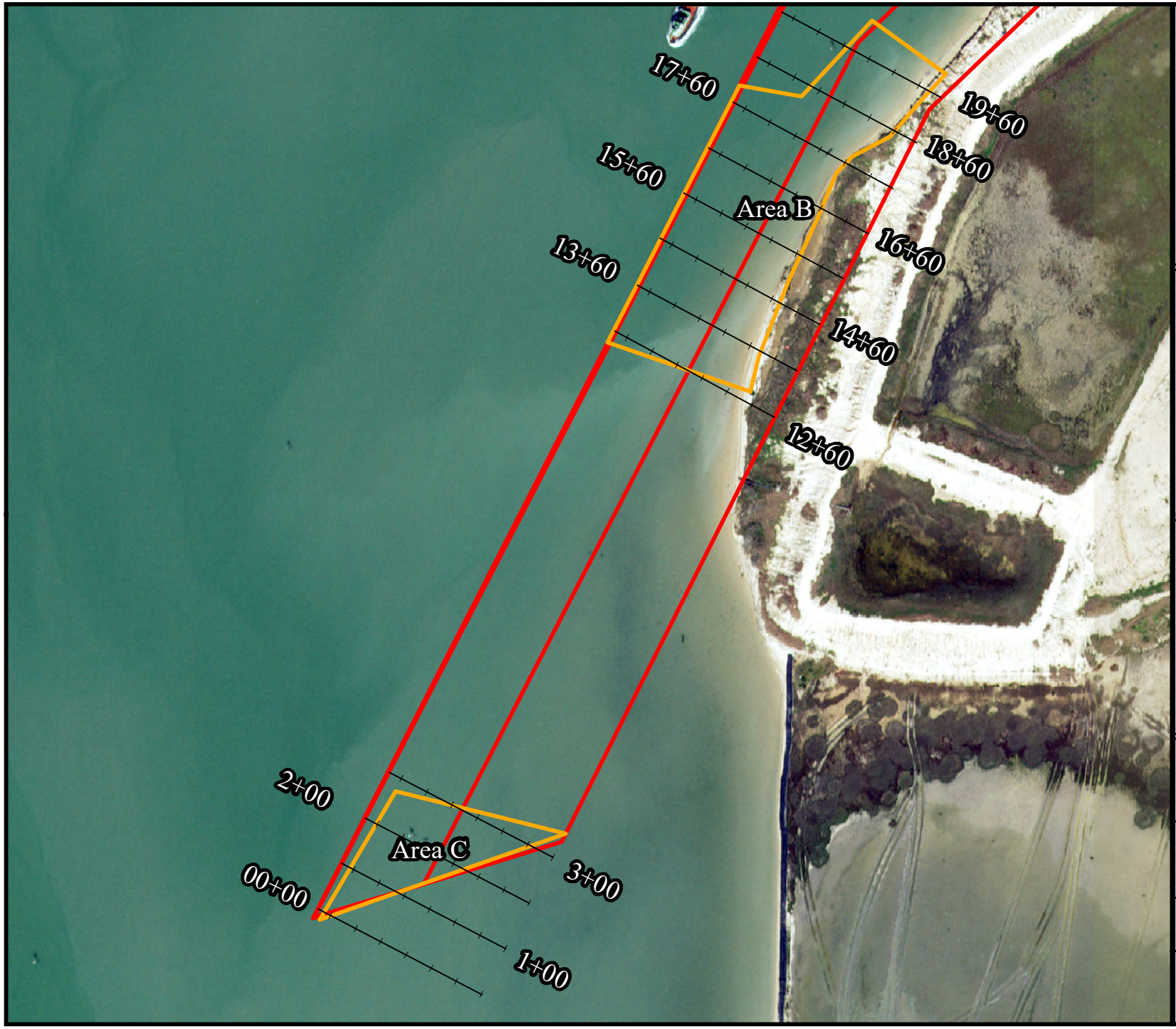
Sample ID	Easting[1]	Northing[1]	Date	Time	Sample Depth Below Sediment Surface (ft)	Sediment Description	Total Hg			% M	
							(mg/kg) dry wt	SDL[3] (mg/kg)	Flag	wt%	SDL[3] (wt%)
CPA-0721-137	2750371.1	13424107.2	7/15/2021	10:40	4.0	Gray clayey silt	0.257	0.000470		46.1	0.0100
CPA-0721-138	2750480.7	13424025.9	7/15/2021	13:40	4.8	Gray clayey silt	1.59	0.000470		44.4	0.0100
CPA-0721-139	2750494.8	13424009.2	7/15/2021	12:55	4.8	Tan sand and shell hash	0.0468	0.000470		18.3	0.0100
CPA-0721-140	2750293.5	13423996.9	7/15/2021	11:00	6.0	Gray clayey silt	1.31	0.000470		50.1	0.0100
CPA-0721-141	2750401.5	13423950.6	7/15/2021	13:30	4.0	Gray clayey silt	0.771	0.000470		50.9	0.0100
CPA-0721-142	2750422.5	13423936.9	7/15/2021	13:05	4.0	Tan sand and shell hash	0.00387	0.000470	J	15.2	0.0100
CPA-0721-143	2750186.2	13423843.4	7/15/2021	11:15	3.0	Gray clayey silt	3.07	0.000470		52	0.0100
CPA-0721-144	2750309.6	13423773.7	7/15/2021	13:20	4.0	Gray clayey silt	0.598	0.000470		39.8	0.0100
CPA-0721-145	2750326.5	13423765.3	7/15/2021	13:15	0.8	Gray clayey silt	0.159	0.000470		45.7	0.0100
CPA-0721-146	2749582.6	13422756.7	7/15/2021	11:50	6.0	Gray clayey silt	0.166	0.000470		63.6	0.0100
CPA-0721-147	2749645.7	13422594.5	7/15/2021	12:15	2.0	Gray clayey silt	0.556	0.000470		38.7	0.0100
CPA-0721-148	2749436.1	13422507.2	7/15/2021	12:20	5.0	Gray clayey silt	0.152	0.000470		63.7	0.0100
CPA-0721-149	Duplicate of CPA-0721-148		7/15/2021	12:25	5.0	Gray clayey silt	0.158	0.000470		63.4	0.0100
CPA-0721-150	2750193.0	13424037.1	7/29/2021	9:30	0.7	Stiff gray clayey silt. Consolidated green clay beneath.	0.124	0.000470	-	60.3	0.0100
CPA-0721-151	2750115.6	13423889.7	7/29/2021	9:15	0.6	Less stiff gray clayey silt. Very firm green clay beneath	0.219	0.000470	-	65.2	0.0100
CPA-0721-152	2750237.1	13423550.6	7/29/2021	9:45	1.5	0-0.75': gray clayey silt with shell pieces	0.344	0.000470	-	27.4	0.0100
CPA-0721-153	2749750.9	13422345.0	7/29/2021	10:00	1.7	Light gray clayey silt with shell pieces atop soft green clay pieces.	0.730	0.000470	-	45.3	0.0100
CPA-0721-154	Duplicate of CPA-0721-151		7/29/2021	9:20	0.7	Less stiff gray clayey silt. Very firm green clay beneath	0.194	0.000470	-	66	0.0100

[1]Coordinates reported in NAD 1983 State Plane Texas South Central, Feet

[2]Depth to sediment corrected to NOAA Gauge 8773259 assuming 0.0 ft NGVD29 = -1.235 MLLW according to DI bridge Elevation Benchmark observations of 2016

[3]SDL - Sample Detection Limit

Hg Result > 0.5 mg/kg



N

0 75 150 300

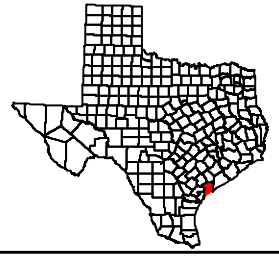
Feet

Proposed CPA Dredge Area

Proposed Silt Curtain Dredge Area

Notes

2015 0.5m DOQQ (Point Comfort) Quad
Calhoun County, Texas



2021 Supplemental CPA Sediment Sampling

Cross Section Key

Prepared for Alcoa Corporation

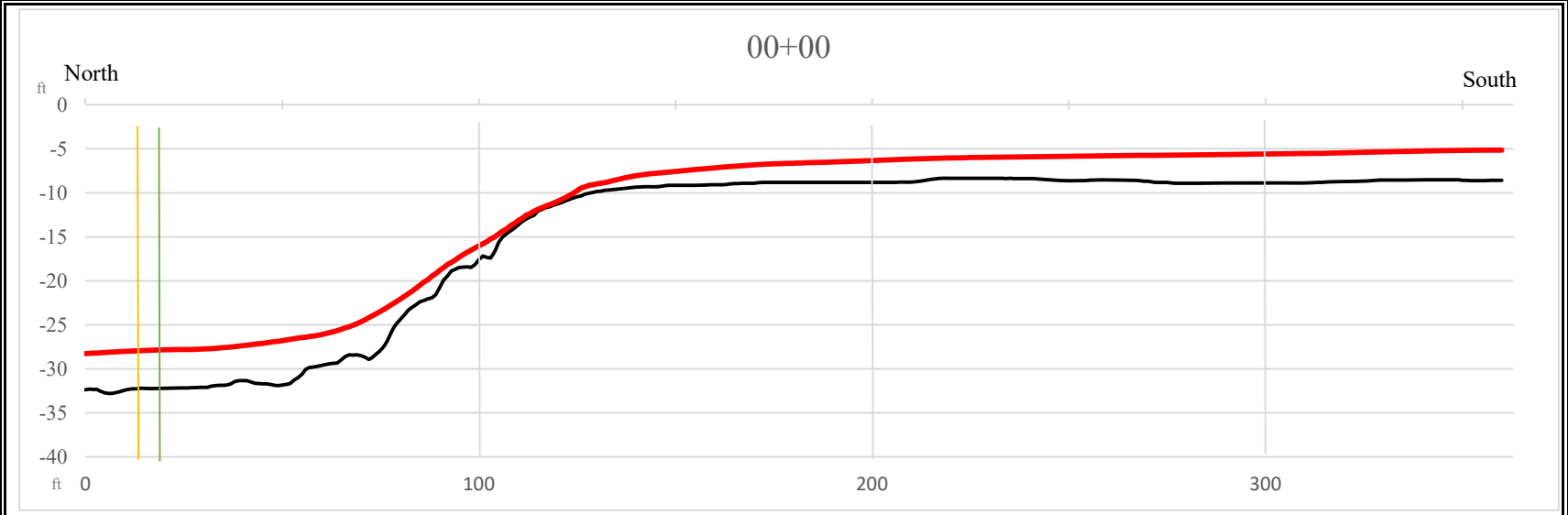
BESI Benchmark Ecological Services, Inc.

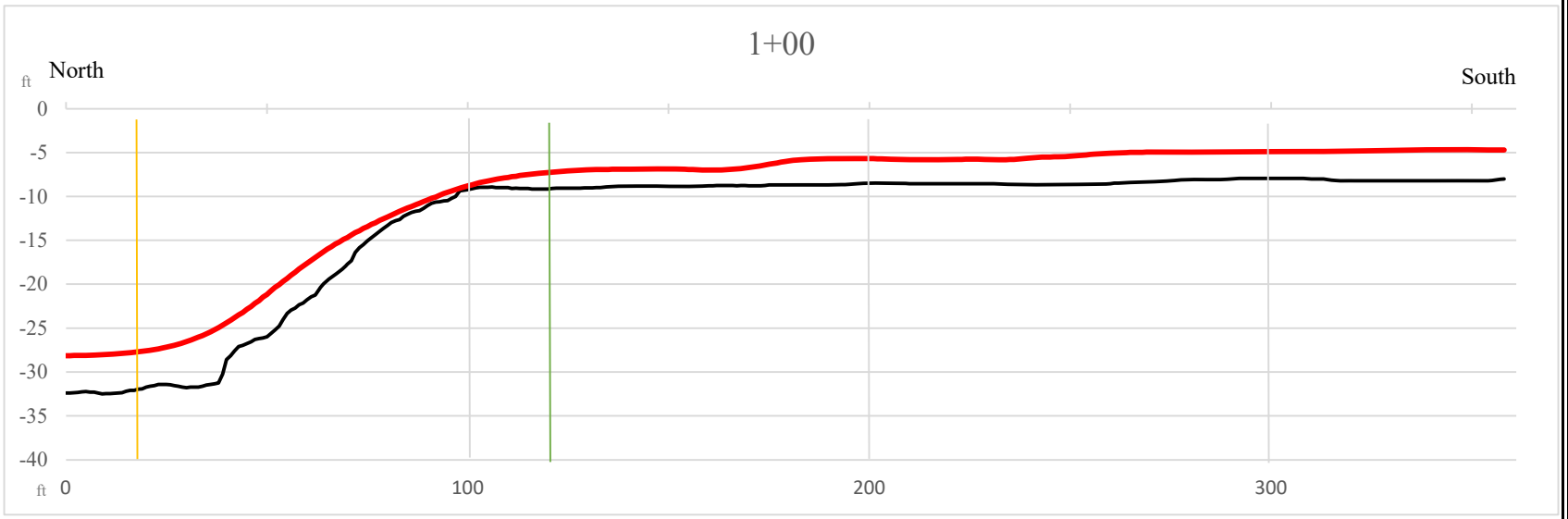
98003-108

Date: 8/24/2021

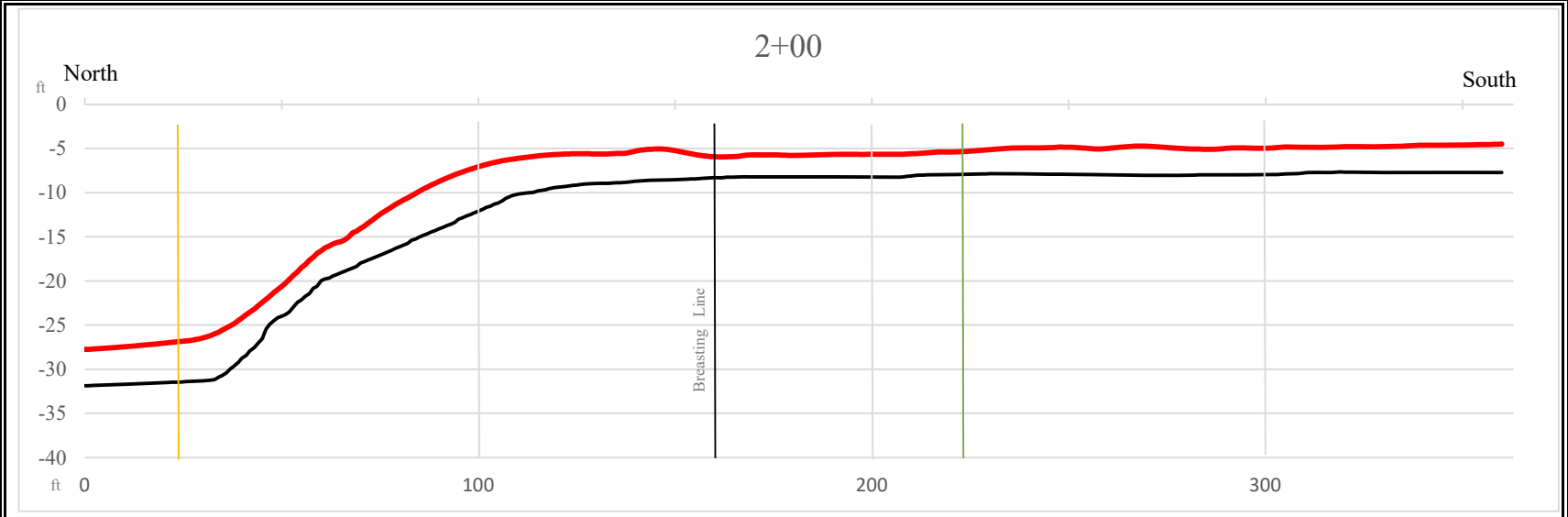
Figure 3

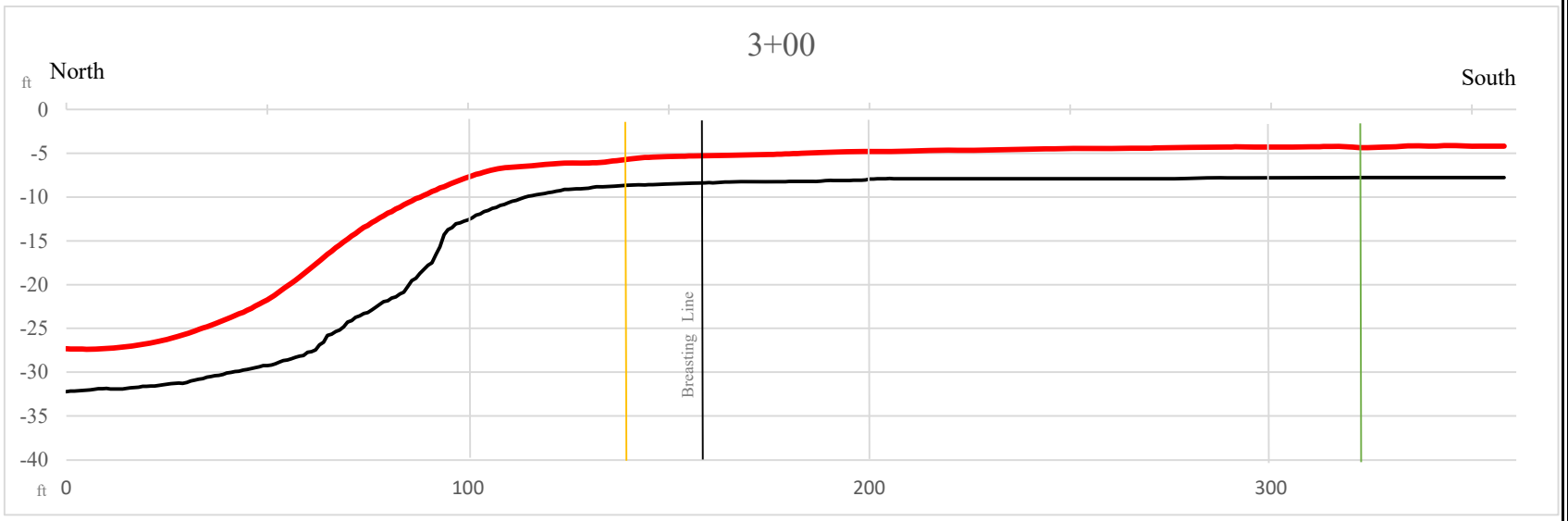
M:\98003\108\Supplementary Study\arc\CrossSections.mxd



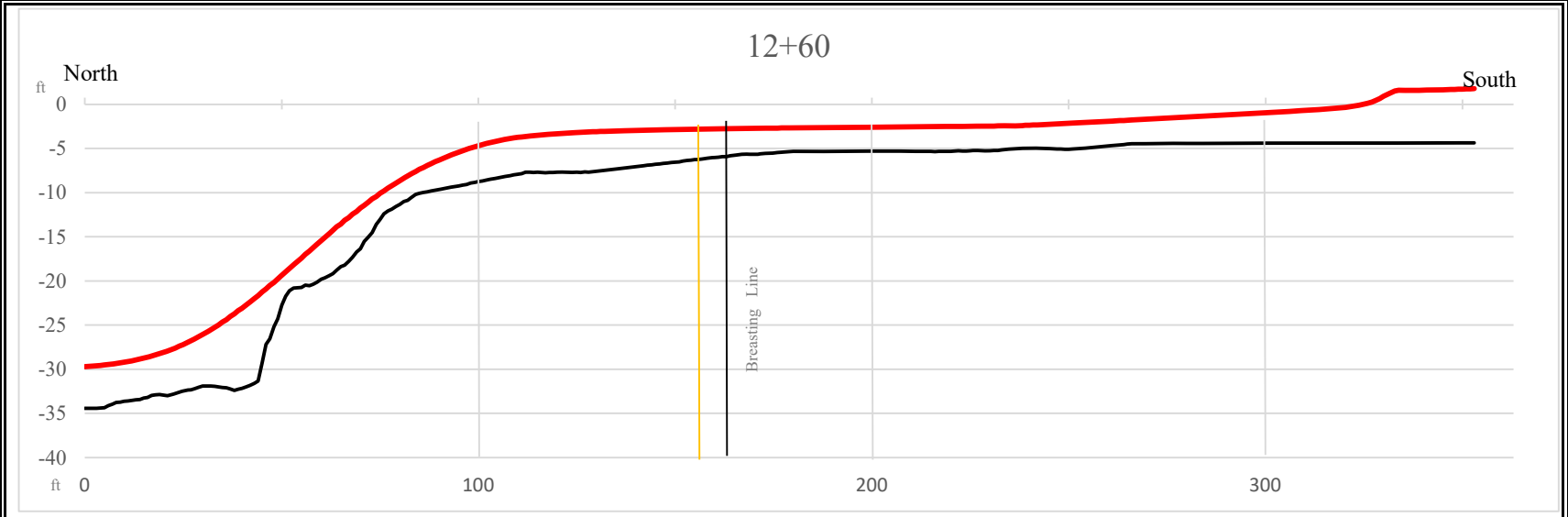


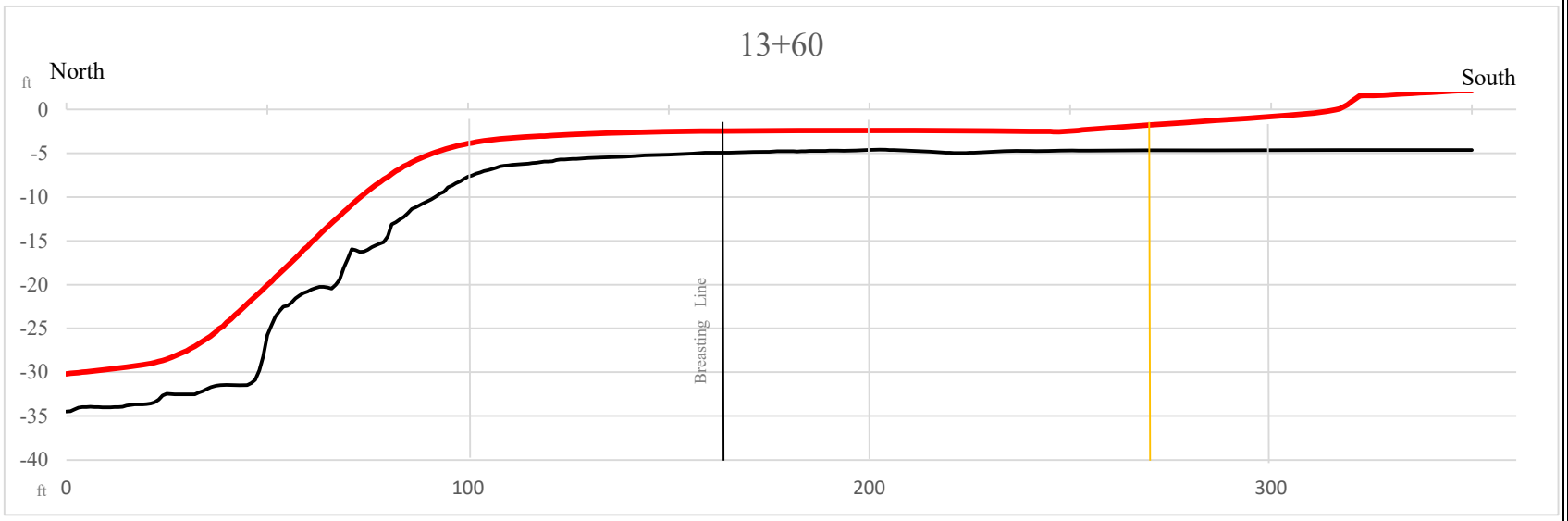
Legend	Units	Tidal Datum	Projection	Scale		CPA Sub Bottom Profiling	
Edge of Proposed CPA Prism Edge of Proposed Mitigation Prism Consolidated Clay Sediment Surface	US Survey Feet	NOAA Station 8773259 to NGVD29	NAD83 FIPS 4204	0 25	BESI Benchmark Ecological Services, Inc.	Project: 98003-108	Prepared by: RM
						Date: 7/29/2021	Page: 1 of 6





Legend	Units	Tidal Datum	Projection	Scale		CPA Sub Bottom Profiling	
Edge of Proposed CPA Prism Edge of Proposed Mitigation Prism Consolidated Clay Sediment Surface	US Survey Feet	NOAA Station 8773259 to NGVD29	NAD83 FIPS 4204	0 25	BESI Benchmark Ecological Services, Inc.	Project: 98003-108	Prepared by: RM
						Date: 7/29/2021	Page: 2 of 6





Legend	Units	Tidal Datum	Projection	Scale		CPA Sub Bottom Profiling	
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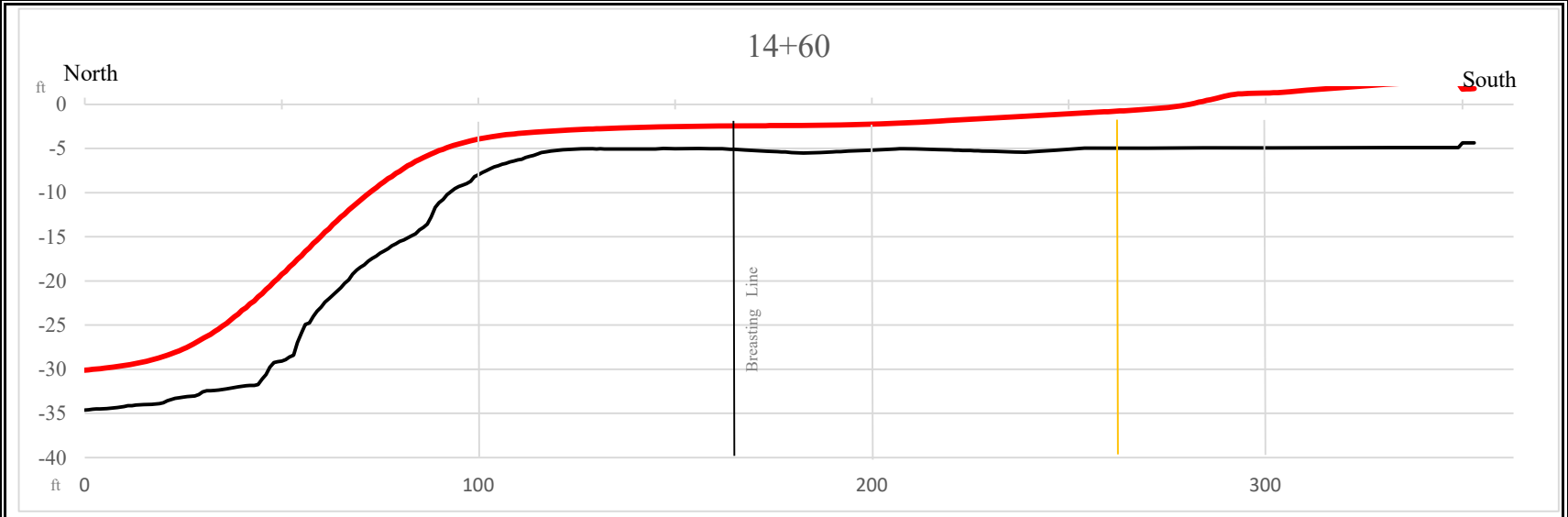
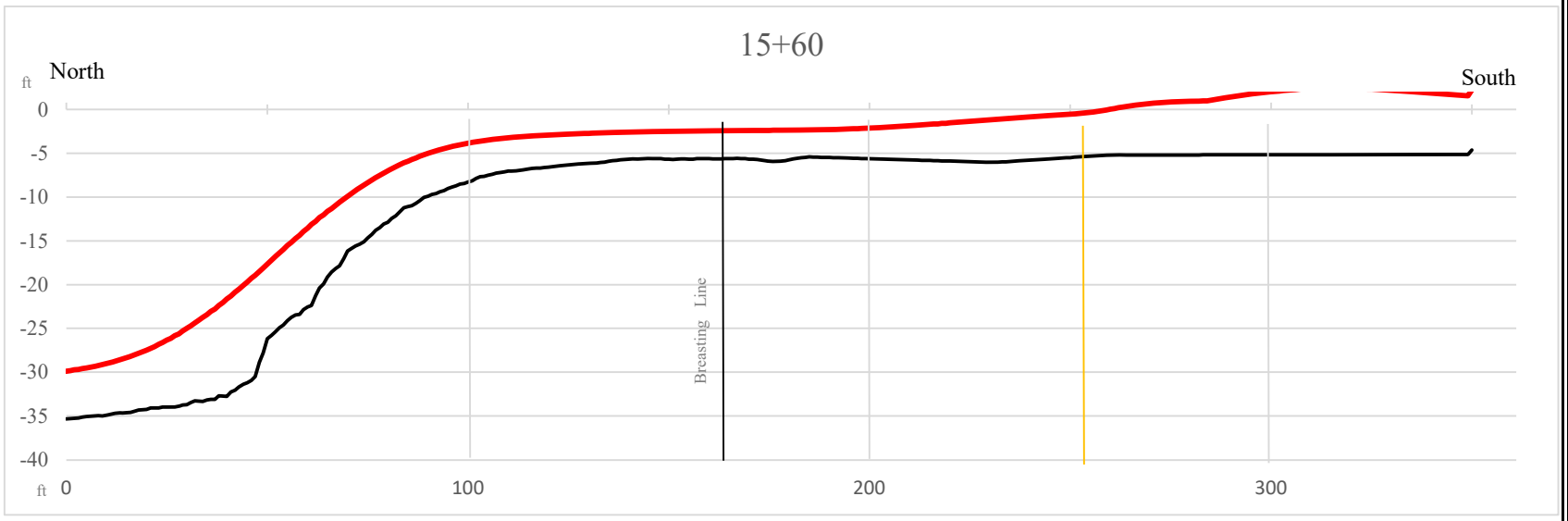
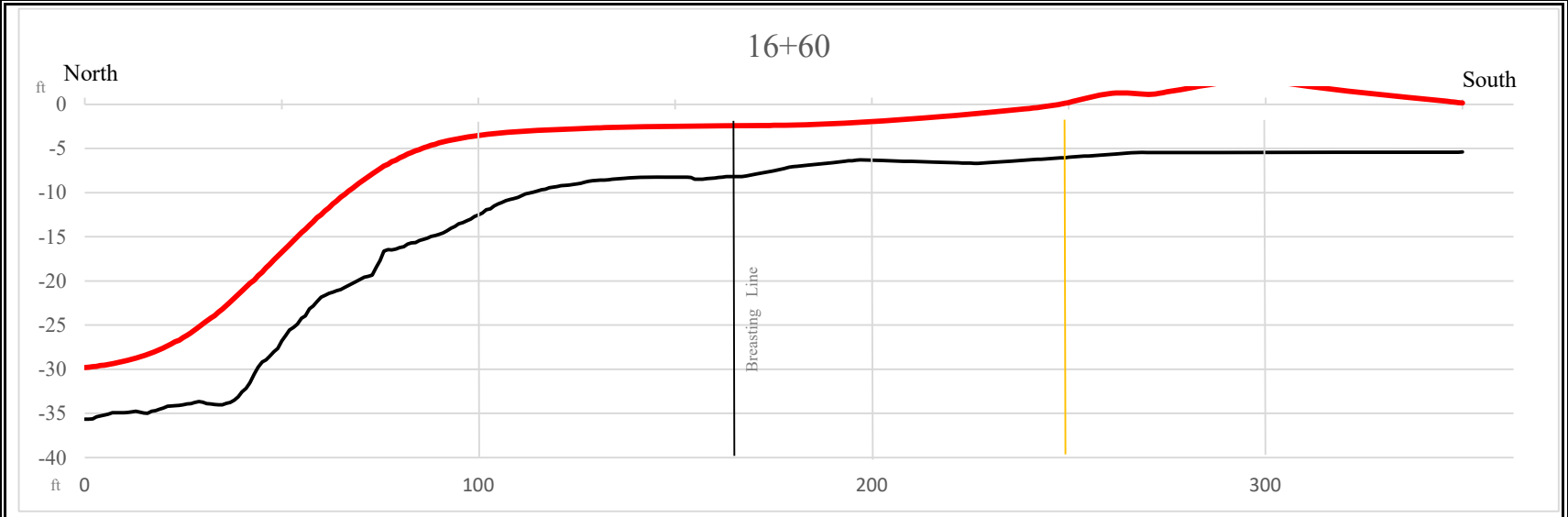
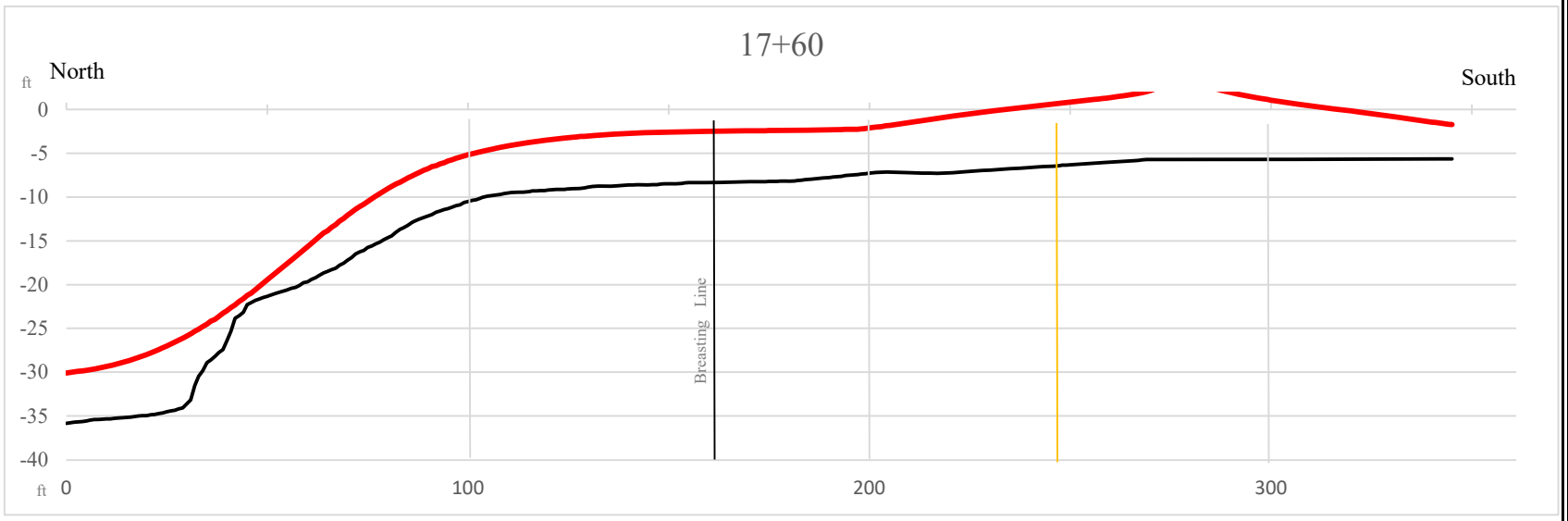


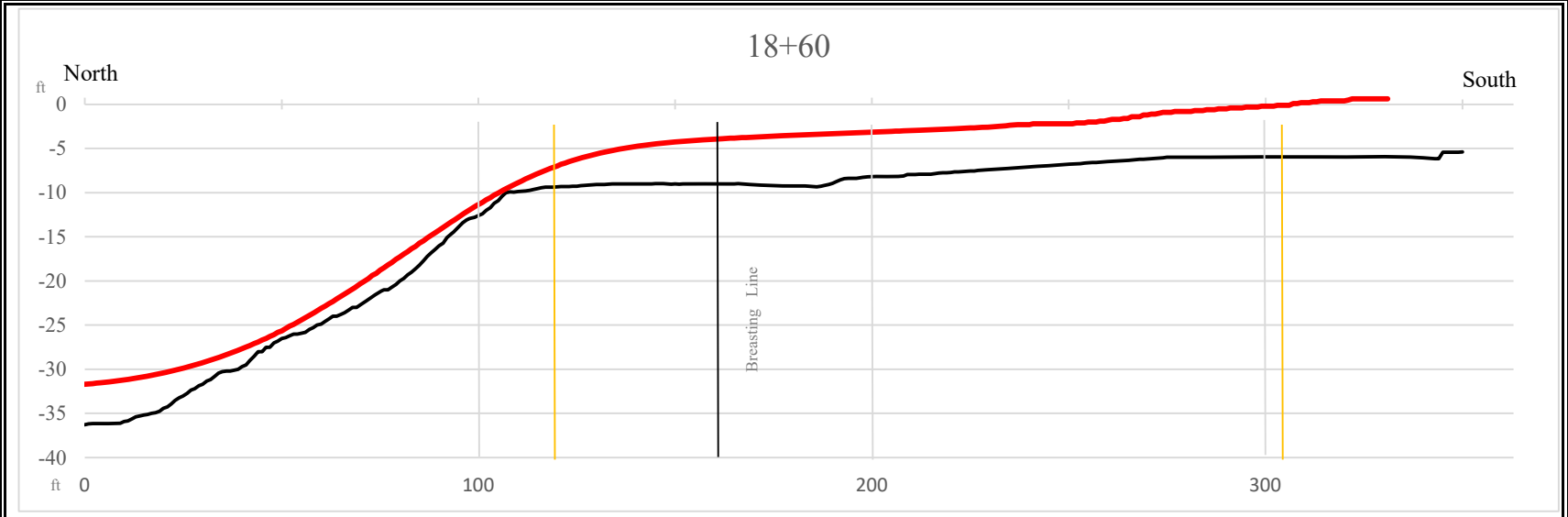


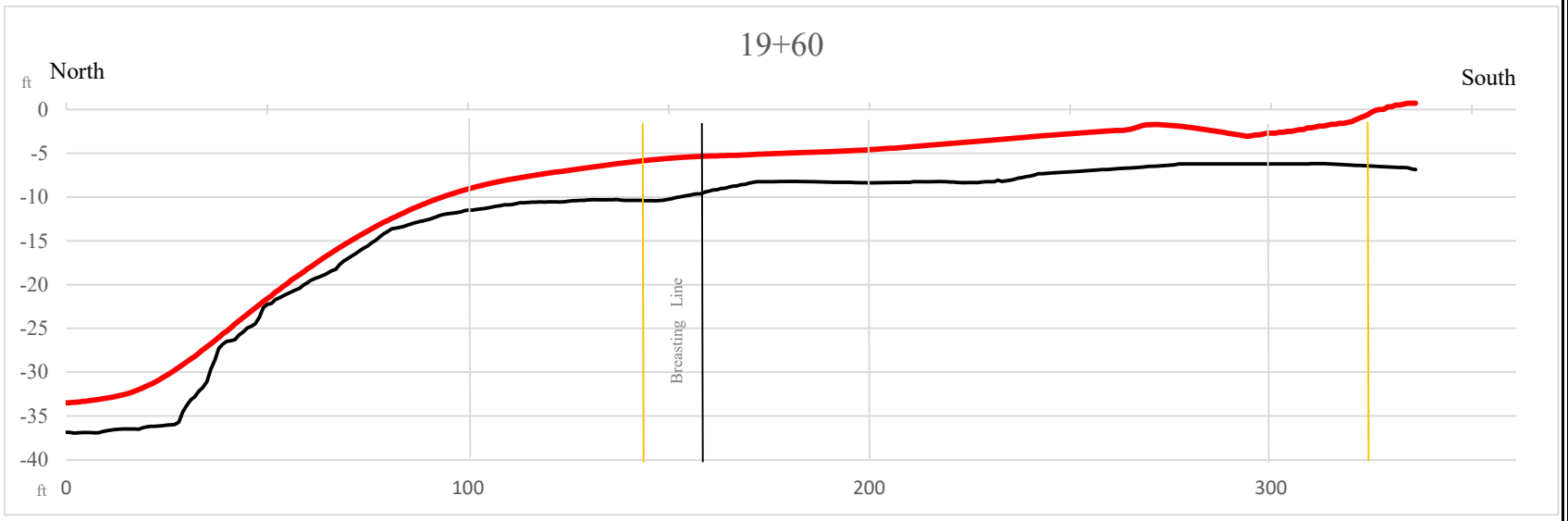
Legend	Units	Tidal Datum	Projection	Scale		CPA Sub Bottom Profiling	
Edge of Proposed CPA Prism Edge of Proposed Mitigation Prism Consolidated Clay Sediment Surface	US Survey Feet	NOAA Station 8773259 to NGVD29	NAD83 FIPS 4204	0 25	BESI Benchmark Ecological Services, Inc.	Project: 98003-108	Prepared by: RM
						Date: 7/29/2021	Page: 4 of 6





Legend	Units	Tidal Datum	Projection	Scale		CPA Sub Bottom Profiling	
Edge of Proposed CPA Prism Edge of Proposed Mitigation Prism Consolidated Clay Sediment Surface	US Survey Feet	NOAA Station 8773259 to NGVD29	NAD83 FIPS 4204	0 25	BESI Benchmark Ecological Services, Inc.	Project: 98003-108	Prepared by: RM
						Date: 7/29/2021	Page: 5 of 6





Legend	Units	Tidal Datum	Projection	Scale		CPA Sub Bottom Profiling	
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						Date: 7/29/2021	Page: 6 of 6

ATTACHMENT A

2021 SOUTH PENINSULA DREDGE PROJECT
SCOPE OF WORK FOR WATER QUALITY MONITORING

INTRODUCTION

Water quality monitoring is required during the upcoming dredge event per Alcoa PCO's U.S. Army Corps of Engineers Section 404 permit. Two primary types of water quality monitoring are required:

1) Monitoring adjacent to the silt curtains; and
2) Monitoring of the decant water from the Dredge Island (DI) Confined Disposal Facility (CDF).

The project will require continuous interaction with the dredge company (Orion Marine Group, or Orion) to manage the water level in the CDF, schedule boat trips to the island for decant sampling and pulling of weir boards, etc.

SAFETY

A Health and Safety Plan (HASP) has been developed and includes task hazard analyses for all work to be conducted under this scope of work. A pre-job safety meeting will be held prior to initiation of any work under this scope of work. Tailgate safety meetings will be held each day before work begins and at any time when new personnel arrive at the site or new hazards are encountered.

SILT CURTAIN MONITORING

Water quality will be monitored during dredging to provide an ongoing assessment of the potential water quality impacts from increased turbidity and/or mercury release from sediments being dredged and the effectiveness of the silt curtains that will be deployed prior to dredging. The primary components of the silt curtain water quality monitoring program include:

- Total suspended solids (TSS) (or turbidity as a proxy for TSS) and mercury will be measured at a distance of 50 meters (150 feet) from the silt curtain. Note: turbidity measurements will be converted to TSS using site-specific correlations to be developed during the initial stages of the dredge project.
- Selection of a sampling location will consider whether tide conditions are slack, flood, or ebb, so that samples are always collected downstream of the point of dredging. For consistency, two dedicated sampling stations will be selected – one to the northwest of the dredge prism (and/or area of silt curtain) and one to the southeast of the dredge prism – at a distance of 50 meters from the silt curtain. The northwest location will be used during the incoming (flood) tide; the southeast location will be used during the outgoing (ebb) tide. During a slack tide, a location nearest active dredging will be used.
- Once a location has been selected based on tide movement, samples will be collected as follows:
    - For TSS/turbidity analysis, samples will be collected from one-foot below the water surface and from one foot above the bottom mudline (i.e., two discrete samples for TSS/turbidity).

  - For total mercury analysis, samples will be taken one foot below the water surface, at the middle of the water column (mid-depth) and at one foot above the bottom mudline. The three discrete samples will be composited into a single sample for delivery to the laboratory.
- Background water quality samples for TSS (and turbidity) will be collected at least 150 meters upstream (depending on tide movement direction) of the active dredging area and away from any other disturbances (e.g., boat traffic, etc.) during each sampling event. For TSS/turbidity analysis, samples will be collected from one-foot below the water surface and from one foot above the bottom mudline (i.e., two discrete samples for TSS/turbidity).
- Samples for TSS/mercury will be taken two times per day for the first 3 days after dredging is initiated. Turbidity measurements shall be taken at each location when the samples are collected for TSS and mercury analysis. After the first three days, samples will be collected once per week. If a relationship between TSS and turbidity has been established, turbidity can be used as a proxy for TSS for the weekly samples.
- Should a noticeable breach in the pipeline or a significant discharge outside of the area surrounded by the silt curtain occur, TSS/turbidity will be monitored in the area of any observed plume associated with the release.
- If a TSS concentration (or a turbidity measurement correlated to TSS) is greater than 150 mg/L over background at a station 50 meters from the silt curtain, the contractor and the CQAO will inspect the construction areas and select controls that focus on the cause of the turbidity (see PCMP).
- If a TSS concentration (or turbidity measurement correlated to TSS) is 500 mg/L or greater relative to background at a station 50 meters from the silt curtain, additional water samples will be collected from the 50-meter station and background area and analyzed as soon as is practical, but no later than 24 hours after the initial sample result is received. If the laboratory-analyzed concentration of TSS exceeds 500 mg/L above background, then the Alcoa Project Manager will be notified, and the dredge program will cease until modifications are made to mitigate for water quality degradation. The USEPA and TCEQ will be notified within 24 hours of such an event.
- All water quality analyses will be performed using standard EPA methods.
- A peristaltic pump with clean Teflon (or similar) tubing will be used to collect water samples. Tubing will be disposed of after each sampling event, with new tubing used for each successive event. Tubing used for multiple samples in one event will be thoroughly flushed with water from the new sampling location or depth by running the pump for a minimum of 5 minutes between samples.
- Field staff will document all sampling activities in a field log book or on sampling forms. Standard chain-of-custody procedures will be used.
- For the samples collected during the first three days, same-day sample analysis will be requested from the laboratory.

DECANT MONITORING

Once the decision has been made to discharge water from the Dredge Island CDF, monitoring of the discharge will be conducted per the USACE Section 404 permit. Procedures for decanting are as follows:

- Decanting will be initiated when there is sufficient water present at the south decant structure and the water appears to be suitable for discharge (i.e., low suspended solids). It is anticipated that the south decant structure will be used for the entire decant project. The north structure will be used if needed, for instance if there are problems with the south structure during the project (e.g., broken weir board below the sediment surface).
- Samples for analysis of TSS (or turbidity as a proxy for TSS) and mercury will be collected at the outfall pipe where water enters Lavaca Bay. If the outfall pipe is under water due to high tide, samples may be collected from the decant structure on the interior of the island where the water enters the structure. Note: turbidity measurements will be converted to TSS using site-specific correlations to be developed during the initial stages of the dredge project.
- Samples for TSS and mercury will be taken as follows:
    - Two times per day for the first two days after decanting is initiated.
    - Once per day thereafter while dredging is occurring.
    - Once dredging has ceased and until decanting has been completed, samples may be collected once per week if the mercury concentration in the decant water has been below 0.002 mg/L for five consecutive days.[1]
    - Turbidity measurements shall be taken when the samples are collected for TSS and mercury analysis. If a relationship between TSS and turbidity has been established, turbidity can be used as a proxy for TSS for the weekly samples.
- Decanting must be ceased in the event that a mercury concentration of greater than 0.005 mg/L or a TSS concentration of greater than 300 mg/L is measured in a decant water sample. Furthermore, if a mercury concentration of greater than 0.005 mg/L or a TSS concentration of greater than 300 mg/L is measured in a decant water sample, the Alcoa Project Manager will be notified and the decant will cease until water quality improves. The TCEQ shall be notified if the mercury concentration exceeds 0.005 mg/L (no timeframe specified).
- All water quality analyses will be performed using standard EPA methods.
- Samples will be collected using either:
    - The grab method from the discharge stream at the outfall pipe or within the decant structure. Grab samples may be collected using a decontaminated container that is placed in the water stream, with the water subsequently decanted into the appropriate laboratory-supplied containers.
    - A peristaltic pump with clean Teflon (or similar). Tubing will be disposed of after each sampling event, with new tubing used for each successive event. Tubing used for multiple samples in one event will be thoroughly flushed with water from the new sampling location or depth by running the pump for a minimum of 5 minutes between samples.
- Field staff will document all sampling activities in a field log book or on sampling forms. Standard chain-of-custody procedures will be used.

[1] Unless high winds or heavy rains occur causing turbulent conditions in the supernatant liquid (per the USACE permit).

2021 SOUTH PENINSULA DREDGE PROJECT
SCOPE OF WORK FOR WATER QUALITY MONITORING

SCHEDULE

The attached table shows the anticipated sampling schedule for the project. Assumptions are listed at the top of the table, and include:

1) Silt curtains shall be installed prior to any dredging activities. Silt curtains will be left in place for at least 24 hours after completion of all dredging activities.
2) Dredging of the South Peninsula area (approx. 40,000 cy) requires 4 days of dredging.
3) Decanting will continue for another 3 days after dredging has been completed.
4) On days where two samples are required, one sample is collected in the AM, one in the PM.
5) Turbidity measurements will be taken any time a sample for TSS or mercury is collected at the silt curtain.

The laboratory (ALS in Houston, Texas) has agreed to analyze the samples on weekends, if necessary, to meet our sample turnaround time requirements. They have also located a courier service to reduce the amount of time between sample collection and arrival of the sample at the lab. It is anticipated that samples will be delivered to the labs immediately after they are collected, at least during the first several days of the project when samples are collected twice per day. For example, on Day 2 when monitoring is initiated, silt curtain and decant samples will be collected early in the morning and delivered to the lab immediately by courier or by field personnel (Golder or BESI). Sample results will likely be available later that same day. The second set of samples will be collected in the early afternoon and also delivered to the lab immediately. The sample results from the second set of samples will likely be available the following morning. This schedule will be altered as needed.